MEMORANDUM

Warren, Pa. 1894.
Moreland, Ky. 1894.
Tennessee – 1897.

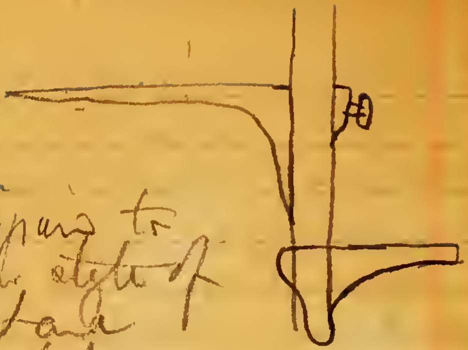
doc. 0075

Philadelphia doc.0075

Wistar Institute

Sep. 2-1894.

The museum is on the lower floor. The windows are not excessively wide but manage light the room. The cases are set between the windows ~~at~~ against the piers and extend considerably into the room; All are made of oak. Locks [illegible]. There are no partitions to the cases. One inch gas pipes are used for up-rights and brackets [inserted into holes [illegible] are above] which are open on one side are fastened in the back by means of screws. The shelves therefore can be adjusted to all levels and no obstruction against the light.



[illegible] to other style of post and bracket.

The striking feature of the museum are the explanation for life of humans showing veins, arteries and nervous systems. Quite a number are presented but one ugly feature is that all are suspended by wires from a horizontal bar giving the impression in the distance of so much meat at a butcher shop.

Phosphatic rock of Tenn.

Beecher regards the age of this rock as Ordovician. The species are Heteropoda. Modern Heteropods are pelagic and have phosphatic shells. The animals, on dying, drop to the depths and the sea water dissolves out the ~~the~~ shells Carbonate of lime and leaves the phosphate of lime as a phosphatic ~~[illegible]~~ mud which fills the shells and leaves casts of them.

Vertebrate collecting.

The paste is made of flour and water of a fair thickness. Gunny sack or burlaps is used and cut about two inches wide. When the bone is badly shattered it is well to stick short sticks over the broken area. Otherwise it is well to pull over the bone two courses in opposite direction. Leave the paste to dry before trying to turn the bone or [illegible] for shipment.

Thin plaster of paris is often good to use where cavities exist. Le Page glue in 3 oz. bottles is good to have along.

Warren Pa.
Sep. 4 — 1894

Met Buehr at Kane where we gathered some interesting glass swift of hemulites. These form at the bottom of large masses of molten glass during cooling. The reservoir in which the glass is made is probably 40 feet long and 10 feet wide inside with the glass four or five feet deep. Once a year or so these furnaces are cooled for repair. Water is run over the top and at the end of a week the mass is sufficiently cooled to begin taking out the glass. Near the bottom the largest

Spherulites are found and become smaller toward the top and eventually only green glass is left. The heat is supplied by natural gas.

Sometimes the glass is run out upon a flat bottom covered with sand about two feet deep, and then is broken up, flattened and reheated when the furnace is [illegible] cooled. Here also the spherulites are formed at the bottom. Spherulites are also formed in the pots holding some 700 pounds of molten glass. It is from these pots that the glass is taken for grinding of the panes. The glass in these

is often stirred with a wooden stick or by [illegible] to the bottom a potatoe.
It seems most probable that these [illegible] are formed largest and in fine perfection where the marl cooles slowest.

Sep. 5 –
Collected a little in the gravel on the top of the hill back and south of Banner. Found a spine of the Palaechinus. Bush found a new Agelacrinus.

Sep 6.
Spent the afternoon at [illegible] Run collecting in the Chemung. [illegible] [illegible].

Sep 7.
Fishing a little in the morning. Packed things & packages were sent by mail. Left [illegible] at 1:45 P.M. for Cleveland Ohio.
Then to Canton to call on brother Phil [illegible]

Phosphate. Which (identifying) with advantage, occurs. Identifying Coeloza minuta and Cystodites (microceras) inornatus. Ctenodonta obliqua. Coeloza depressa. A

Lorraine.

Cincinnati, Ohio
Sep. 9–10
Sep 11 visited Mr. ... to
Moreland, Ky.

Sep. 11 – 1894
Moreland Ky.

On ~~Major~~ Moreland farm a short distance to the N.E of the station contact of the Upper Cincinnati formation and the Devonian is well shown. No Niagara present. Of the Cin. for. there is about 15 feet exposed at the very top of which are found *Murchisonia bowdeni*? and three feet below occur *O. sinuata*, *P. biforata*, *R. capax*, *Strophitina* [see Cinc. Jour.]. The top of the Cin. has been slightly worn and upon it is immediately deposited the Devonian with Corniferous corals and etc.

A species of Hindia occurs abundantly in the Devonian.

Sep. 13 at Danville Ky

" 14 Burgin and then to Cincinnati.

Visit of Tulane Univ.

1897 See expense account at back of book

Washington to Nashville,
Tenn. Centennial Exposition

May 5. Left Washington on 2.20 P.M. on C. & O. road.

May 6 Arrived in Newport Ky about 7.30 A.M. Spent the time until 2.10 at Ulrich's. Arrived in Louisville at 5.20 and Nashville at 11 P.M.

May 7 Set up the Survey fossils.

" 8 Assisted Dr. Clarke on the mineral and rock collections.

" 9 Collected fossils in the morning at West Side Park a short distance west of the Centennial Exposition grounds. The horizon can be provisionally called the Stimatopora beds.

" 10 Set up the Museum fossils. trilobites.

May 11 Set up the Museum fossil crinoids and fishes.
" 12 Set up Lucas exhibit.
" 13 Set up coin exhibit and assisted Benedict.
14 Set up library exhibit.
" 15 Called on Prof. Safford and adjusted a few things in the N. Nat. Museum exhibits. In the
Loc. (1) afternoon collected fossils near Reservoir hill or on the hill just northwest of it. On the north-east side of the hill near the top is a small quarry exposing beds with Ortho-rhynchula Linneyi. Beneath this bed is a thick bedded blue limestone with large Stromatopora. A little to the west of this quarry and directly beneath

Loc. (2) 20 feet lower are other quarries the top of which expose the beds with numerous Tetradiums some Stromatopora and Columnaria. The brachiopods of the higher level are quite rare here. Most of the fossils are poor due to the weathering conditions of the beds.

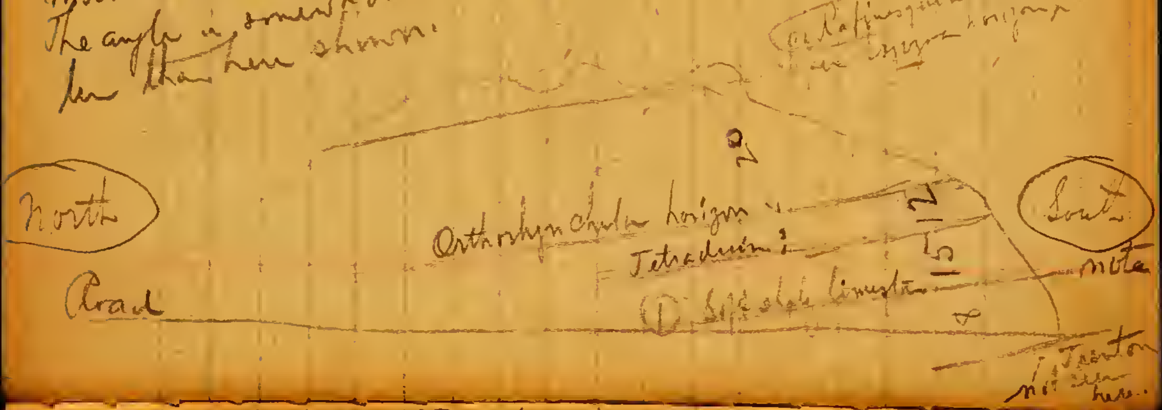
May 16 Sunday
Looked around the Penitentiary grounds to the west of Nashville in the morning. Collected one trilobite from rocks used in the Pent. wall – probably Chazyan.
In the afternoon went to a resort called Glendale to the south of Nashville. Collected a few Orthis.

May 17. Spent the morning with Lafford in securing the Lower Stelderium localities. In the afternoon collected around Reservoir hill. First at the base of the hill along the Glendale cars track. This horizon is [illegible] called the Oll[illegible] horizon. It cannot be much lower than the Tetradium horizon [illegible] not exceeding 20 feet.
Then collected a few bryozoa from a street cutting to the south [illegible] the reservoir.

May 18 Spent an hour on the river front between the two bridges and found a few ostracods.
Then collected on [illegible] hill. The following is a section.

[illegible] on
[illegible]

dip north west.
Most to north
The angle is somewhat
less than here shown.



Note. At West Side Park in a
treet cutting there is exposed the
same shaly yellowish-white soft
limestone almost a shale bearing the
same position as in the basal layer
of the section of the previous page.
Immediately above these beds
at West Side Park occur the
Stromatopora bed and although
I do not remember seeing any of
these fossils on Meyer's hill yet
I believe both to be the same horizons.
Beneath these soft limestones
at West Side Park in the lowest
adjacent field one can gather
numerous R. incrassens and
small P. bilirata, and rarely an
O. tricenaria. These are the typical
undoubted Trenton beds while all
above, which Sardeson has called
the Capitol hill limestone, are

the transition belongs to the Cincinnati. If this is true one should expect that some of the Capitol Hill limestone bryozoa should also occur in the main quarry horizons about Cincinnati.

May 19 Packed [illegible] and shipped to [illegible]. Then went to Exposition and adjusted [illegible] [illegible]. At 4 P.M. left for Camden arriving there 7.30.

May 20 Collected all day in the Camden chert just on the outskirts north of the village. To the west of the village [illegible] seems little.

This chert bed appears to be from 12 to 15 feet thick and is

overlain by a chalky bed
about 6 or 7 feet thick which
is grey blue when weathered
but appears to be quite [illegible]
when unweathering. Is it the
Black Shale - Genesee.
[illegible] of the shale has a
thin bed of limonite ore
(2 inches) and on the [illegible]
[illegible] loose [illegible] beds.

There can be no doubt
that the [illegible] is True
Hamilton since nearly all of
the characteristic Hamilton fossils
[illegible] are seen or are
represented by closely related
forms. The most typical
forms are Spirifer [illegible]
and [illegible],

May 21 Started out from Camden to find Safford's Lower Helderberg locality on the Birdsong. "Halls Landing" is near Rockport and "Mathis" 8 or 9 miles from Halls Land. is not on the Birdsong but on Wolf Creek. After considerable driving over very bad roads over the Siliceous group at 2 P.M. found the Lower Helderberg outcrop. While I collected a bag of fossils I am disappointed since the bulk of the bag contains Bryozoa. Brachiopods are scarce and nearly all are poor.

This locality is near Chaseville on Wolf creek up the stream from the wagon road going from Chaseville to Holliday. About half a dozen exposures w/in a quarter of mile from the road.

The Chesapeake shale loc. is on the Birdsong creek about 1½ mile S.W. of Olive forge which is 8 mi. south of Camden.

The dip of the strata is marked in one place and the formation may be from 20 to 25 feet thick overlain by the Camden chert. The latter cannot be seen except by the mass of broken chert on the hill-sides.

At Allens mill on the Birdsong occurs an exposure of Meniscus limestone followed by Lower Helderberg. I saw a few L. H. Orthis and secured two specimens and some fragments of that peculiar bulb crinoidal root. That the Meniscus limestone also occurs here is shown by the presence of Astraeospongia.

On Wolf Creek the Lower Helderberg is mainly a shale with a few thin beds of limestone. One portion has considerable limestone and it

have nearly all the corals except Zaphrentis.

Slept at Hollidaysburg town.

May 22. Started out for Camden and between the fourth and fifth mile N.E. of Holliday along side the road found two excellent exposures of Lower Helderberg. Probably 35 feet are here exposed. The Brachiopods are here more numerous but not as abundant as I had expected.

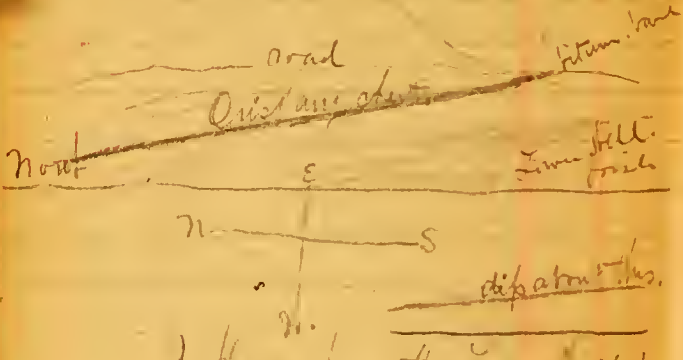
The corals or Michelinia and Favosites are most abundant in the lowest layer where the Bryozoa are practically absent. The Bryozoa came from the upper portion.

Shipped three small boxes by freight from Camden. C.N. & St. L. R.R.

May 23 Left Camden at 7.30 AM
for Big Sandy arriving there 9.45.
By carriage.

May 24 Six miles south of Big Sandy
at Tom Barnes house in the [illegible]
about ten feet of Lower Helderberg
overlain by Oriskany.

Tom Barnes house



In places here the Lower Helderberg
top is unworked and intermixes with
Oriskany chert and overlain by a
black bitumen band 2 or 3

feet thick in which are numerous
pieces of ^recent wood, a miniature buried
forest! The Oiskany is clean
does not apparently exist on the
spot but must be closely in place.
The black band passes over into a
blue gravel band probably not less
than ten feet thick. This may be
a Big Sandy glacial service deposit,
The Oriskany formation as were
shown in a small quarry to the west
of Big Sandy, [illegible] to [illegible] the
same thickness here as [illegible]
about 30 feet. The [illegible] and
Catonia are [illegible] [illegible]
of Cornidem. The [illegible] is
seen [illegible] times along side ^westerly part the
Camden road for six miles south
of Big Sandy

May 25 — Drove 18 miles north to Jefferson
Williams mill locality. This is
at a bridge crossing the Big
Sandy river [illegible] Co,
The exposure however is on the
Benton side. Secured quite a lot
of fossils.

The exposure is about 30 feet
and is all a blue shale. It is
the [illegible] shale, as exposed
in [illegible]. The lowest layers
held many Atrypa reticularis
followed by [illegible] and
then the [illegible]. Higher in the
[illegible]
[illegible] The [illegible]
are found in the [illegible]
[illegible]
[illegible].

On my return [illegible]
[illegible] are below these

and that those near Hollands are nearly all above these at the bridge. If this is true the Lower Helderberg in Benton Co. cannot be less than 75 feet thick. It passes into the Meniscus limestone to a blue shale and then towards the top the beds of limestone are again introduced.

A boy, Chet Zachler, Pace Henry Co Tenn said he could collect shells at 1/3 of Ben [illegible] a box.

May 26 Packed a box and shipped by Southern Express. Left for Camden at 8 A.M. Left Camden for Nashville at 3.30 P.M.

May 27 Spent the day at the Exposition. Nashville

May 28 At Las Casas in the Ridley limestone there is a Orthoceras mud like the one found in the gorge of [illegible] Bridge Ky.

~~AL 3 miles [illegible] Brant [illegible]~~

(? Henderson folio)
Granger shale contains the cock-comb fucoid and Spirifer - Cartern. The Int. Carr are not Devonian. [illegible] Tenn. or St. Louis [illegible]. Rhyn. [illegible]

[illegible] question [illegible] either [illegible] The [illegible] are [illegible] [illegible] ship [illegible] [illegible] See [illegible] vol [illegible] are C, D, M.

Note [illegible] collection [illegible]

From "Jerome H. [illegible] two-? miles south of Big Sandy Station, Benton Co. Tenn." Safford Coll. [illegible] He has a Trilobite which I do not appear to have. It is apparently much like L eglifrons. This loc. is now near [illegible] Tom Barn. house.

✓ Dicranurus ornatus occurs [illegible] So. of Nashville Tenn.

✓ Sphaerexochus textilis occurs near Rogersville Tenn. (East)

✓ Near Hollander (Safford B) there is a Pentamerus much like P. laqueatus. The latter I am almost certain occurs "on the ridge south of [illegible] in [illegible] 10-12 feet below Black shale."

✓ Eichwaldia subtrigonalis occurs abundantly at [illegible] Tenn.

Orthis [illegible] in Poem above
✓ at [illegible] and [illegible] [illegible]
[illegible]

Safford [illegible] [illegible] from the Dead
shale at Lindsley's Bluff which
[illegible] [illegible] but [illegible]
[illegible] different. They at [illegible] creek
[illegible] the same [illegible]
occur a little smaller [illegible]
association with [illegible]
[illegible] shale [illegible].

✓ Grewetia occur abundantly [illegible]
Sparta. Tenn.

Meristina nitida & M. [illegible]
✓ occur at Newsom's.

Graptolites.
[illegible] 3. miles [illegible]
[illegible] [illegible] [illegible].
[illegible] A[illegible]. Bell. [illegible] on
[illegible] [illegible] line. [illegible]
[illegible] of road [illegible].

from Waynesboro to Savannah
and on Flat Gap creek a
band of Indian crass.
Calcite, Iron concretions etc
occur here.
5 miles from Clifton on Eg.
Santee in a small branch within
a short distance of Hardin Creek
Col. Jim Smith's 9 miles from
Savannah on the Waynesboro
road. Marl banks on Brown
Fork of Turkey. Some parts of
the rocks furnish the fossils.
Did some work for Cap. in the
afternoon.

May 29 Left Nashville for Cints
7.10 A.M.

" 30 Spent ~~the~~ day at home

1895

May 31 Spent the forenoon in Center and the afternoon at Waynesville O. Stopped with Ulrich at night.

June 1 Stopped with Ulrich in the morning and the evening at home

June 2 Left Newport for Washington at 12.15 P.M.

Preparation for Greenland

With Heilprin June 24 / 1897
Philadelphia.

Kandasuk.
Dwarf willow and Arctic birch &
Grass bag for moss
Take artificial fuel.
Take a tent.
Sailor's outfits at fisher-
man's.
Rubber boots
Hudson Bay stockings
Daniel Brodbury. Good have
a fine man.
(Muscatel nutting.

Food. Condensed for dogs.
(Norway) Koppo 20 pounds. 15
F. N. Leggett. Ag't. N.Y. City
Canned Meats ~~Condensed~~
Peach & Pears.
~~[illegible]~~ Beef Tea cans
Maggi

in little bottles. Tastes like beef broth not like Libby.
Jaeger's underwear.
Cotton stockings & Rubber boots. Hudson Bay stuff for the nights.
Ulster full length for the vessel.
Rubber coat.
Ask Peary about tin for cooking.

At Sag Harbor get at least Improved boots; fur lined and boots for camping. Also use the there by Brooks, both together.

Old clothing for the men
little hand. and beads for women
Pen knives, looking glasses.

Film Kodack. Write
Eastman for one with first film.
4×5. Day light loader. $25.

Alpenstock. with a
point and axe. Crampons
also for feet.

Line for birch.

Brandy. Porous plaster.
2 Quinine. Powders for diarr.
Colored glass for ice caps and
...
~~...~~ ...
...
...
Small opera glass.

28–30° to 40. In the
sun to 70–80. ...

thr at 30 feet little 40 her.
Ask Peary about tent for six men

~~2 Sweaters~~
~~1 [illegible]~~
~~4 Sets of underwear.~~
~~1 [illegible] knickerbocker~~ 2 pr. golf stock.
~~1 Pair Rubber hip boots.~~
~~Shoes or button boots~~
~~Cotton [illegible]~~
~~1 Light rubber coat.~~
~~1 Heavy overcoat.~~
Eskimo boots
Hudson Bay Stockings
~~1 quart of Brandy.~~
~~Sand glasses.~~
~~2 pair warm working gloves.~~
~~Blood [illegible]~~
~~Rubber [illegible]~~
~~Rubber blankets~~

~~2 pair of blankets.~~ and
~~mosquito netting~~
1 ~~straw~~ hat.
arrangement for hat mosquito net.

2 Hammers, for Johnston
2 Hatchets, for both
2 Picks for both.
1 Spade " "
1 Crowbar?

---

5 Indians & 3 men. 6 weeks.
Peary recommends:
Coffee, sugar, milk, ship biscuits. 10 rectangular sealed tins. 50 pounds each for biscuit. Baked beans, brown bread, breakfast bacon, canned fruits, canned stewed tomatoes. Hours Condensed pea soup as coffee.

double wick
2 or 3 coal oil stoves. 20 gal. of oil. Demi matches Dannifs.
2 tents.

Sheet lead and packing and tools for repairing.

Small skiff for two men to get about.

Porter 7 to 10
Hitchers 4-6

Parker House

Chief of Construction
Constructor Phila Hichborn
28 ft whale boat. Sail and oars.

Provincetown.

~~Providence~~ take steamer.

~~take afternoon train and steamer return the next day.~~

~~Go to H. R. ~~[illegible]~~ King. Clothing~~ Store. Geo. O. Knowles.

Miss Bedford

Mrs Lewis

Ask for a letter to his people.

Steamer Longfellow from to Provincetown.

Geo. S. Comstock
Evanston Ill.
1326 Ridge St.

Tour texts to Boston by July 8th.

See if you can [illegible] Hansi
[illegible] 3 [illegible] Rep.
[illegible] Tre[illegible]

[illegible] Barnacles,
Euphausia longicauda
[illegible]
Centropages.

Pootholter [illegible] in [illegible] i
[illegible] Rhynchonella [illegible]
[illegible]

See about Rhynchonella [illegible]
[illegible] plena
[illegible]

Museum notes

Ask Mason for label for Upholstery... wands. ... Kopfschnitt ... ... Zuge ... sketch.

~~Ask T... for ... lot ... ... case~~

~~True ... specimen ... label~~

~~True ... ...~~ Australian skeletons.

~~... ... label.~~

~~Cases ... ...~~

U. S. N. M. Expense acct
Nashville to ——

May	19	2 boxes packing paper "	✓	25
"	19	[illegible] boxes to dep.	✓	35
"	19	[illegible]	✓	2 00
"	19	[illegible]	✓	50
"	22	Hotel at Hollidays	✓	1 25
"	22	Box	✓	25
"	22	3 boxes	✓	15
"	21-22	Buggy and horse for 2 days	✓	3 00
"	23	Hotel at Camden Tenn. {The Hollidays acct on the receipt is added to this}	✓	5 00
"	23	Transportation Camden to Big Sandy (Saunders)	✓	1 50
"	26	1 Box	✓	10
"	26	Hotel at Big Sandy	✓	3 00
"	26	Buggy to Williams [illegible] and to Camden	✓	4 50
"	26	Dinner at Camden	✓	50
"	26	Camden to Nashville	✓	2 60
"	26	[illegible]	✓	50
"	27	Bkfst .50 Lunch .25 Din .50	✓	1 25
"	27	Street car	✓	.10
				27 3 0

			27 25
May 28	Bread 50 Lunch 25 dinn 50	✓	1 25
" 28	Street cars	✓	10
" 29	Breakfast in Nashville	✓	50
" 29	Porterage [illegible]	✓	10
" 29	Dinner to Louisville		50
" 31	To Waynesville & R.R.		2 70
" 1	Dinner at Cin.	✓	50
" 31	Supper at Cin.		25
June 2	Sleeper to Wash.	✓	3 00
" 2	Dinner on cars	✓	1 00

Amount of Exposition acct $ 45.70
First bill. 34.40. Sec. bill 18.30

Amount of Museum bill. 26.05

Lower Helderberg loc.

Big Sandy Station. Benton Co.
Along the banks of the Big Sandy river from 3 to 5 miles south. It is in this vicinity that Williams Mills used to be. About three miles south of Big Sandy Prof. Safford says contact can be seen between the L. Held and Oriskany.

50 feet of Held. lim.

Camden. Benton Co.
See in the Camden cheet on wagon road going north-west from the village. Also along the railroad track. Report on the Oriskany to Safford.

Birdsong Creek Benton Co.
Near Mathis, 8 or 9 miles from Halls Landing on the waters of the Birdsong L. Held is to be had.

Perryville Decatur Co

The best glades are to the south-west of the village. Roemer collected between Perryville and Brownsport in the glades.

Also collect along the rail road west end of Perryville Tenn.

Holliday [illegible] Mathis
[illegible] Landing – Rockport
Rockport and [illegible] right
hand [illegible] / Left hand.

Nashville Tenn

Also on a running line (? station) ~~runoff to the south near the river,~~ within 100 yards of the river, Cuts along the line towards the end, Oath ~~Lindburgh god new Ozygon occur here.~~ Also ~~Ozygon~~ O. bifovela, O. sinuata

~~John Meisner~~

~~Richmond~~ Ind.

~~Old~~ Test Woolen Mills.

America

Ulrich Bryozoa Lanston (?)
Collection: For sale, his price

200 species, 100 genera
about 800 specimens
for $160. Also about
100 slides.

Also about 700 spec.,
120 genera with specimens
from all the known localities
$500.

~~Columbia Black indelible~~
~~Drawing Ink. Keuffel and~~
~~Esser Co. New York. Made in~~
~~Germany~~

1894

Feb. 11	Cart to Moreland (2)	7 60
" 13	Mrs. R. Peyton	5 00
" 13	Moreland to Danville @ 3.0 (2)	6 0
" 14	Clemens Home	2 00
" 14	Danville to Burgin (2)	00
" 14	Burgin Hotel	1 00
" 14	Burgin to Cin.	6 50
		23.70

(1890)

Mar 5	Cab to the depot	50
" 5-6	[illegible], breakfast & supper	1 95
" 6-19	Tullane Hotel	26 00
" 6-19	11 Street car to [illegible] 10	1 10
" 6-19	11 lunches [illegible] 35	3 85
" 9-16	2 dinners 50	1 00
		[illegible]

Ten. Cent.

May 1897.

5	Cab to depot	50
5	Dinner on cars	1 00
6	Supper at Louisville	50
	Breakfast	45
	Car fare	10
7	admission to ground	50
7	Lunch in Womans build.	75
7	Supper at Richdson	50
8	Breakfast " "	50
8	Lunch in Womans build	45
8	Car fare to grounds	10
8	Supper	50
9	Breakfast dinner & Supper	1 50
10	Breakfast & supper	1 00
10	Lunch at Exposition	40
10	Street car	10
11	Meals	1 50
12	Meals	1 50
13	"	1 50
13	Street car for 3 days	30

~~From Falls (Fine Ore~~
~~Near Mathis? for graphites~~
~~From Falls - on the waters of~~
~~the Birdsong in Benton Co.~~

Dug for either Cristaline or L.H. of Chert near Camden on wagon road going n.w. from the village. The same also & seen on R.R..

Three miles south on road to Williams mill there is bluff exposing the Cristaline or L. H. Look for the chert at both Big Sandy and Camden for a report to day next.

1894

Wash. to Phil	4 00
Phil. to Warren Sep 4	9 25
Sleeper	2 00
Warren to Cleveland	4 72
Room at Phil.	3 00
Books at " 4 od Exp.	4 70
Cleveland to Canton	1 75
Cleveland Hotel	1 50
Canton to Cin.	6 50
Cin. to Wash.	17 00
Clothing	12 25
Pottery	29 25
G. W. 1/2	23 70
	111 62

Section pages back.

132 W. 41 st.

Cor. Vincent and Academy Ave.
Get off car at Buck Ave:
go up one square ~~and~~ turn to the right. nearest house to corner.

---

975 Signorine Petite histoire amusante
E. I. Photo. Beecher piece.

Barton.

3 m. fm Beardstown Tenn Niagara
Newsoms. Live on the ridge south of
Newsoms. His an ... ...
~~Big Sandy ... ...~~